R. EHMER.

PLATFORM SCALE.

No. 192,574. Patented July 3, 1877.

Fig: 1

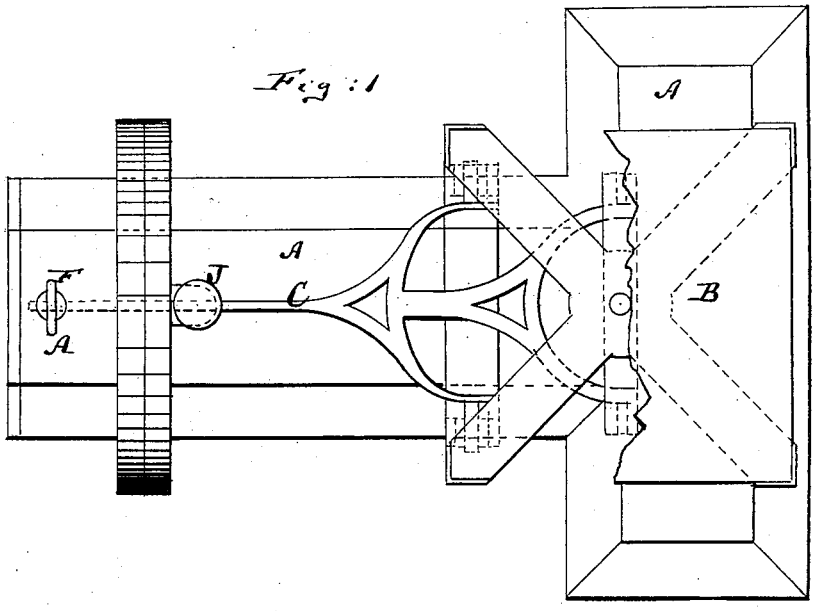


Fig: 3

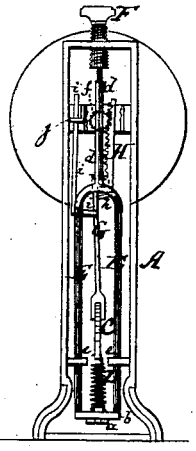
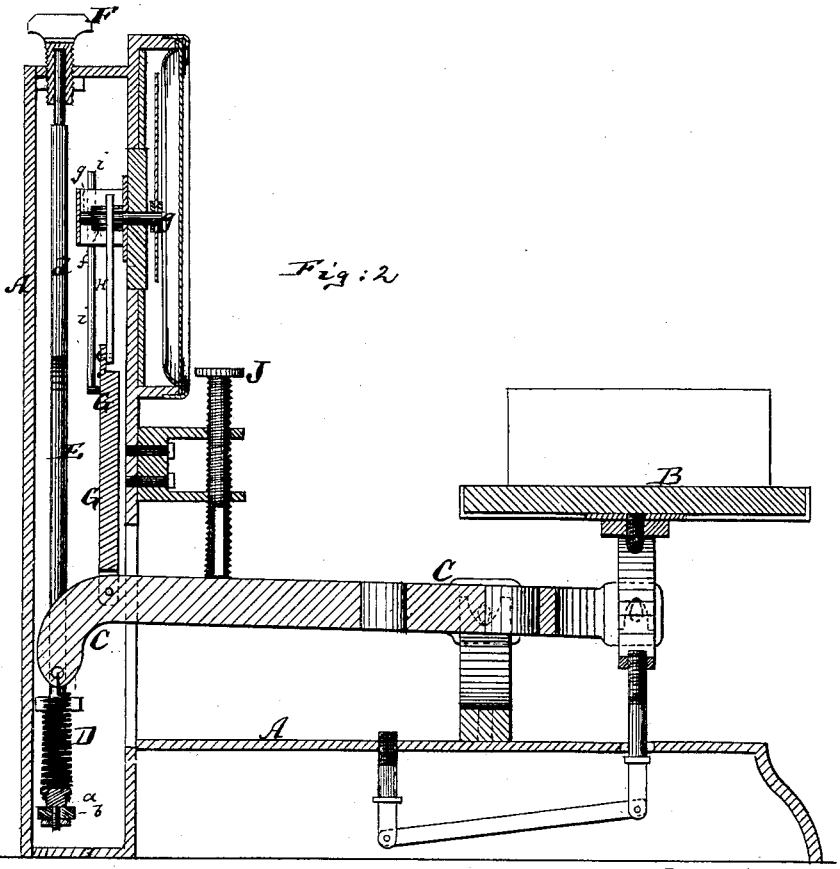


Fig: 2



Witnesses:
J. C. Tunbridge
A. V. Briesen

Inventor:
Rudolph Ehmer by his attorney
A. V. Briesen

UNITED STATES PATENT OFFICE.

RUDOLPH EHMER, OF NEW YORK, N. Y.

IMPROVEMENT IN PLATFORM-SCALES.

Specification forming part of Letters Patent No. **192,574**, dated July 3, 1877; application filed April 23, 1877.

To all whom it may concern:

Be it known that I, RUDOLPH EHMER, of New York city, New York, have invented a new and Improved Platform-Scale, of which the following is a specification:

Figure 1 is a top view, partly in section, of my improved platform-scale. Fig. 2 is a vertical longitudinal section of the same; Fig. 3, a back view of the same on a reduced scale.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to several improvements in the mechanism of a spring platform-scale, whereby the adjustment and the guidance of the parts are rendered more perfect, and greater protection against injury is afforded.

The invention consists, first, in the use of a slotted or forked screw, which serves, when the scale is in use, as a guide to the lever which carries the platform, and as a stop to prevent operation when the scale is not to be used.

The invention also consists in the combination of a set-screw with a slide that connects with the balance-spring for the purpose of regulating the tension of the spring and setting the index-hand to any suitable point in starting.

The invention also consists in a new mode of securing the spring to said slide, and in a new manner of guiding the link that connects the scale-beam to the pivoted rack which turns the index-hand, all as hereinafter more fully described.

In the drawing, the letter A represents the frame of the scale. B is the scale-platform; C, the lever, hung in the frame A, and connecting at one end with the platform, and at the other with the upper end of the tension or balance spring D. The lower end of the spring D is coiled around a pin, *a*, which is screwed into the cross-bar *b* of the yoke E. The pin *a* has a shoulder at its upper part, which shoulder enters between the coils of the spring, and serves thus to hold the spring in place. By merely unscrewing the pin *a* from the yoke E, and unhooking the spring from the lever C, the spring is unfastened for repair or replacement by one of different tension.

The yoke E is placed vertical, and has an upwardly-projecting rod, *d*, rigidly secured to its upper end. This rod bears against a screw, F, which may be turned to vary the tension of the spring D; for the farther the yoke is carried down by the screw F the more will the spring D be expanded.

The screw F can also be used to vary the position of platform B and lever C, and thereby, also, that of the index-hand, to bring the same to zero after a receptacle for things to be weighed has been placed on the platform. This will permit the weighing of goods in receptacles without necessitating the deduction of the weight of the latter from the total weight indicated.

The yoke E is properly guided in notched or perforated guide-plates *e e*, that project from the frame, as shown.

I prefer to insert the rod *d* in a hollow or cavity of the screw F, to obtain better guidance, and permit the use of a longer rod, *d*, or yoke E.

The lever C is, by a pivoted link, G, connected to the toothed rack H, which is pivoted to said link, and which serves to turn the pinion *f*, that is mounted upon the arbor *g* of the index-hand. A spring, *h*, tends to hold the pivoted rack H in continuous contact with the pinion *f*. From the link G projects a rigid guide-arm, *i*, which passes through a fixed loop, *j*, and is free to move up and down therein. The arm *i* is substantially parallel to the rack H, and serves to guide the link G, so as to render the motion of the pivoted rack as nearly straight as possible.

J is a screw, suspended over the lever C, and forked at its lower part. When its slot is in line with said beam, this screw will serve as a guide for the up and down movements of the lever; but by a quarter-turn of the screw J the same can be brought to bear upon the lever, as in Fig. 2, and to lock the entire mechanism, preventing it from being moved when not required for use.

I claim as my invention—

1. The forked guide-screw J, combined with the lever C, to guide or lock the same, as required, substantially as specified.

2. The combination of the set-screw F with the slide or yoke E, balance-spring D, and le-

ver C, the screw F being secured in the fixed frame A, and caused to bear directly against the slide or yoke E, substantially as and for the purpose specified.

3. The screw F, made hollow, and combined with the rod *d* and yoke E, substantially as herein shown and described.

4. The combination of the lever C and pivoted link G with the guide-rod *i*, guide-loop *j*, and with the pivoted rack H, substantially as herein shown and described.

The foregoing description of my invention signed by me this 20th day of April, 1877.

RUDOLPH EHMER.

Witnesses:
ERNEST C. WEBB,
F. v. BRIESEN.